

# Exploiting High-Resolution Sea Floor Maps and Undersea Drones to Achieve Acoustic Signature Spoofing at a Distance

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## Introduction

When contending with a maritime adversary lacking in a robust orbital submarine detection capacity, it should be possible to plausibly create the illusion of engine/propeller noise associated with known submarine types emanating from a variety of positions while masking the true point of origin for the spoofed acoustic signature, particularly given that the precise position of the hostile submarine is known. Torpedoes and their acoustic signature may also be spoofed, creating the possibility of inveigling a hostile submarine into emptying its offensive payload on the basis of a series of carefully calibrated spoofed acoustic signatures which are convincingly emulative of an authentic attack run.

## Abstract

Unmanned Underwater Vehicles (UUVs) may be used to emit focused acoustic energy crevices in the sea floor which could serve to dampen omnidirectional energy leakage which would naturally result from a collimated phononic emission. The acoustic energy would be directed toward a hostile submarine or sensor in a known position. The acoustic signature emitted would be made to match the known acoustic output of given platforms such as friendly attack or ballistic missile submarines.

Two key ingredients are needed in order to make this strategy for frustrating adversary naval operations practical. The first is the ability to know adversary asset positions; a condition which has been met. The second is that one must be able to generate acoustic energy which is focused so that no energy is emitted omnidirectionally but so that phonons are emitted in a LASER-like, collimated fashion. This, too, falls within the current state-of-the-art.

## Conclusion

Using such a method, a UUV equipped with a collimated acoustic generator operating from within either natural or artificial sea floor trenches could project acoustic energy associated with engine and propeller sounds followed by the louder sounds associated with torpedo launches and cavitation in order to provoke an enemy into expending its armaments so that actual assets may safely move to within range and neutralize the target.